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THE UNIVERSITY OF ALBERTA

THE ACCOUNTANT'S RIGIDITY OF ATTITUDE TOWARDS PERSONAL HABITS

by



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FACULTY OF GRADUATE STUDIES

The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies for acceptance, a thesis entitled THE ACCOUNTANT'S RIGIDITY OF ATTITUDE TOWARDS PERSONAL HABITS, submitted by David Keltie Allan, in partial fulfilment of the requirements for the degree of Master of Business Administration.



## ABSTRACT

The empirical research for this thesis was part of a larger project performed at the University of Alberta. Questionnaires which contained six attitude scales and various demographic questions were mailed to professional accountants in British Columbia and Manitoba, and administered in classrooms to business students in Alberta and British Columbia. The "rigidity of attitude regarding personal habits" was measured using a Likert-type scale.

It was found that the rigidity of attitude of chartered and industrial accountants was significantly different. This difference could be partially attributed to observed demographic characteristics such as income, age, religion, ethnic origin and number of employees in the firm where the accountant was employed.

Also, it was found that the rigidity of attitude of business students majoring in accounting and those not majoring in accounting was significantly different. However, this difference was smaller than in the former case and apparently less related to demographic characteristics. The demographic characteristics found to be contributing to the observed difference in rigidity were frequency of church attendance, type of population center where brought up, education of father and perceived academic standing.

Finally, it was found that, in terms of rigidity of attitude, business students majoring in accounting were between industrial and chartered accountants. The accounting majors differed from the practising accountants mainly in ethnic origin and frequency of church attendance,



but were more similar to the industrial accountants in terms of religion and more similar to the chartered accountants in terms of type of population center where brought up.

The results of this study can lead to many speculations about the future of the accounting profession. One such speculation is: if the business students who are majoring in accounting are different from the practising accountants, in terms of demographic characteristics, for example, socio-economic status, how will this affect the future of accounting?



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## CHAPTER I

### INTRODUCTION

The primary objective of this study was to measure the relative "rigidity of attitude towards personal habits" of accountants and business students. It was felt that the educational process undergone and the demographic characteristics possessed by an individual would be reflected in his rigidity of attitude. Therefore, it was expected that there would be a difference in attitude between chartered and industrial accountants, and between business students majoring in accounting and business students not majoring in accounting. That is, it is likely that these differences in attitude can be partially explained by reference to educational process and to demographic characteristics.

In addition, it would be interesting to determine if a similarity exists between accounting majors and practising accountants in terms of rigidity of attitude and demographic characteristics in an attempt to discover if any attitudinal or socio-economic changes are occurring in the accounting profession.



## CHAPTER II

### SURVEY OF LITERATURE

This literature survey will discuss the broad concept of "attitude" in terms of how attitudes came to be studied, defined, theoretically structured, and finally, how attitudes can become inflexible and invariant. Following this, research on the rigidity of behavior and, in particular, the rigidity of attitudes will be surveyed. Thus, an attempt will be made to discern central issues running through the research and, in the process, develop a framework for the empirical study to be performed.

#### The Nature of Attitudes

The popularity and universality of the use of the term "attitude" in contemporary social psychology is the result of its not being the property of any one psychological school of thought, avoiding the controversy between instinct theory and environmentalism, and being elastic enough to apply to the dispositions of an individual or to the broad patterns of a culture.<sup>1</sup> Because the term is so abstract and so serviceable it has come to signify many things to many writers with the inevitable result that its meaning is somewhat indefinite and its scientific status questionable.<sup>2,3</sup>

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<sup>1</sup> G.W. Allport, "Attitudes," in Handbook of Social Psychology, Volume II, ed. by C.A. Murchison (New York: Russell and Russell, 1935), p. 798.

<sup>2</sup> IBID

<sup>3</sup> L.W. Doob makes a similar statement in "The Behavior of Attitudes," Psychological Review, LIV (May, 1947), p. 154. He states that the concept of attitude is "ambiguous, unspecific and quasi-scientific".



According to Allport, experimental psychologists have conceived of attitudes in many ways - from an "Einstellung" (a set) to "manifestations of brain activity". In addition, psychoanalysts, such as Freud, have further developed the term by emphasizing its dynamic and unconscious characteristics. However, the term attitude was initiated into social science by Thomas and Znaniecki who gave the term systematic priority in describing the adaptation of Polish peasants to changes in their lives when they settled in the United States.<sup>4</sup> Out of this grew voluminous research on social attitudes, and it is therefore appropriate to look at some of the definitions that have been developed.

Attitude has been defined in many and varied ways since its inception into social science literature.<sup>5</sup> Much of this variance may be attributed to the "specificity versus generality" controversy surrounding the term.<sup>6</sup> This controversy concerned the degree to which attitudes may be considered to have a specific referent (specificity) or be a generalized and pervasive disposition of the person (generality).

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<sup>4</sup> IBID, p. 802.

<sup>5</sup> G.W. Allport lists some of these definitions in the Handbook of Social Psychology, Volume II, (New York: Russell and Russell, 1935), pp. 804-805.

<sup>6</sup> M.E. Shaw and J.M. Wright, Scales for the Measurement of Attitudes, (New York: McGraw-Hill, 1967), p. 2.



However, some traditional definitions, illustrative of common usage are:

A mental and neural state of readiness, organized through experience, exerting a directive or dynamic influence upon the individual's response to all objects and situations with which it is related.<sup>7</sup>

An enduring system of positive and negative evaluations, emotional feelings, and pro or con action tendencies with respect to a social object.<sup>8</sup>

Predisposition of the individual to evaluate some symbol or object or aspect of his world in a favorable or unfavorable manner.<sup>9</sup>

In summary, it can be seen that attitudes have been conceived of as a predisposition or readiness to respond in a particular way towards particular aspects of a given object.

An attitude can be divided into three components - the affective component which refers to the evaluative-emotional aspect, the cognitive component which refers to the knowledge, awareness or beliefs, and the behavioral component which refers to the overt action tendencies, all towards the object of the attitude.<sup>10</sup> Each of these components may vary

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<sup>7</sup> IBID, Allport, p. 810.

<sup>8</sup> D. Krech, R.S. Crutchfield, and E.L. Ballachey, Individual in Society, (New York: McGraw-Hill, 1962), p. 177.

<sup>9</sup> D. Katz, "The Functional Approach to the Study of Attitudes," Public Opinion Quarterly, XXIV (1960), p. 168.

<sup>10</sup> M.J. Rosenberg, C.I. Hovland, W.J. McGuire, R.P. Abelson, and J.W. Brehm, Attitude Change and Organization (New Haven: Yale University Press, 1960), pp. 2-7.





in valence -- degree of favorableness, and multiplexity -- number and variety of elements making up the component.<sup>11</sup>

Thus, as the individual develops, his cognitions, feelings and action tendencies with respect to the various objects of his world become organized into enduring systems called attitudes.<sup>12</sup>

The attitudes of an individual are, to a large extent, learned. Many attitudes are formed through integration -- that is, numerous specific responses of a similar type are built up through the accretion of experience. Thus, through a learning process the individual develops a set of opinions or attitudes towards various objects in his environment.

More recently, Krech and Crutchfield have stated that attitudes are shaped by the information to which the individual is exposed.<sup>13</sup> Attitudes develop selectively in the process of want satisfaction and are partially determined by the individual's group affiliations. In addition, they state that attitude reflects the individual's personality, somewhat imperfectly, however, because of different teachings of his authorities in different areas, conflicting group affiliations and conflicting wants.

In summary, attitudes are conceived of as possessing affective, cognitive and behavioral components which become organized through experience and social interaction.

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<sup>11</sup> IBID, Krech et. al., p. 140.

<sup>12</sup> IBID, Krech et. al., p. 139.

<sup>13</sup> IBID, Krech et. al., p. 213.



One of the first people to study the inflexibility of attitudes was Lippman who based a theory of public opinion on this construct.<sup>14</sup> He pointed out that people have neither the time, knowledge or inclination to respond to every stimulus event with complete and intelligent discrimination and, therefore, that the inflexibility of attitude is functional for the individual because it reduces anxiety and makes behavior more predictable. Thus, as Allport has suggested, inflexible attitudes are so saving in time and effort that they often persist throughout life in the way they were fixed in childhood or youth.

Therefore, the next logical step seems to be to look at the inflexibility of behavior with particular reference to the rigidity of attitudes.

### The Rigidity of Attitude

Various researchers have attempted to define and operationalize the basic psychological attribute of "rigidity-flexibility" with limited success, suggesting that there are different types and different definitions of rigidity.<sup>15</sup> In particular, according to Chown, research on rigidity has developed from learning or habit rigidity using Einstellung tests, to psychopathic rigidity using concept formation tests, to personality rigidity using paper and pencil tests. Einstellung tests involve building

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<sup>14</sup> IBID, Allport, p. 813.

<sup>15</sup> S.M. Chown, "Rigidity - A Flexible Concept," Psychological Bulletin, LVI (1956), pp. 195-223.



up a "set" in the subject and then giving him a problem which is best solved in some way other than the one he is expecting. In concept formation tests the investigator arbitrarily chooses a variable around which the test is oriented and then asks the subject to discover this variable. Paper and pencil tests require the subject to respond, in terms of agreement to disagreement, to various statements about the object of the attitude to be measured. Out of research on personality rigidity grew the study of the rigidity of attitudes, with pioneer work being done by Frenkel-Brunswik.<sup>16</sup>

Research on the rigidity of behavior has not produced any reliable measurements, probably because of inconsistent methodologies and an unclear concept of rigidity.<sup>17</sup>

Originally, rigidity was thought to be an inherent, basic characteristic existing in all people. Alternatively, rigidity was conceived of as existing in simple learning tasks when subjects failed to alternate between various methods of problem-solving, for example, in Einstellung-type problems. Another approach used to study rigidity was that used by psychoanalysts who studied the rigidity of abnormals, for example, psychopaths. Psychopathic rigidity has two forms: primary - the inability of a patient to change from one train of thought to another and secondary - a patient prefers making an incorrect answer to no answer at all when faced with a problem that is too difficult for him.

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<sup>16</sup> T. Adorno, E. Frenkel-Brunswik, D.J. Levinson and R.N. Sanford, The Authoritarian Personality, (New York: Harper Bros., 1950).

<sup>17</sup> IBID, Chown



Psychoanalysts explained the observed rigid behavior as "individual differences in the existence of strong boundaries between the mental functions".<sup>18</sup> The final approach was to study personality rigidity using paper and pencil tests which consisted of measuring the attitude of individuals towards given objects. Personality rigidity refers to the "idea that the behavior of people in different situations varies along a continuum marked at one extreme by cautious guardedness or limitation of reaction, and at the other extreme by freedom of reaction or lack of defensive caution".<sup>19</sup>

Thus, research on rigidity has progressed to the point where rigidity is being more clearly defined and a more consistent methodology for measuring it is being developed.

The impetus for the study of the rigidity of attitudes using paper and pencil tests came from research on the Californian Ethnocentrism and Fascism scales which indicated that the prejudiced person also had rigid attitudes.<sup>20</sup> The investigators were guided by the overall hypothesis that the political, economic and social convictions of an individual often form a broad and coherent pattern and that this pattern is an expression of deep-lying trends in his personality. The most crucial finding was the demonstration of a close correspondence in the type of

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<sup>18</sup> IBID, Chown, p. 197.

<sup>19</sup> S. Fisher, "An Overview of Trends in Research Dealing With Personality Rigidity," Journal of Personality, XVII (February, 1949), p. 342.

<sup>20</sup> IBID, Adorno et. al.





approach and outlook a subject is likely to have in a variety of areas.<sup>21</sup> For example, conventionality and rigidity were found to be aspects of the same broad personality pattern.

One of the first attempts to develop and use a paper and pencil rigidity test was performed by Wesley who studied the effect of questionnaire rigidity on behavior in a concept-formation task.<sup>22</sup> It was found that the "rigid group" took longer to shift set in performance on a card-sorting (concept-formation) task.

Rehfishch attempted to develop a different rigidity scale by using "true-false" personality inventory items.<sup>23</sup> A 39-item scale was constructed which had a cross-validation coefficient of .35.

Finally, Moresko developed another rigidity scale in an investigation of the relationship between rigidity and anti-democratic ideology.<sup>24</sup> It was found that there was a correlation of .62 between the two scales used (rigidity and Californian Fascism) tested on a sample of college students. The methodology and findings of this study will be investigated further in a later chapter.

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<sup>21</sup> IBID, Krech et. al., p. 202.

<sup>22</sup> E. Wesley, "Perservative Behavior in a Concept Formation Task," Journal of Abnormal and Social Psychology, XLVIII (1953), pp. 129-134.

<sup>23</sup> J.M. Rehfishch, "A Scale for Personality Rigidity," Journal of Consulting Psychology, XI (1958), pp. 11-15.

<sup>24</sup> R. Moresko, M. Rubin, F.C. Shontz, and W.R. Morrow, "Rigidity of Attitudes Regarding Personal Habits and its Ideological Correlates," Journal of Abnormal and Social Psychology, XLIV (1954), pp. 89-93.



The rigidity scales thus developed purported to measure rigidity as observed in actual behavior but offered no explanation as to its cause or relationship to situational variables.



## CHAPTER III

### HYPOTHESES

#### Rationale for Studying the Rigidity of Accountants

The study of the "rigidity-flexibility" dimension in the recent past has been accentuated by the job expectations of the modern day businessman.<sup>25</sup> He is expected to be cognizant of present day business methods and always on the alert for external change and development. As industry progresses new demands are constantly being imposed on the busy executive by continuous technological, organizational and social changes. Adaptation to this changing job world will pose difficulties for some people but offer a stimulating challenge to others. There are several reasons to account for these varying reactions but they may be related, at least in part, to individual psychological factors, such as the degree of flexibility-rigidity. For example, Rubenowitz, in a study undertaken in Sweden, makes the following observation:

...flexibility or its antonym, rigidity, will determine how well the individual adapts himself to the working group and working environment in which he is supposed to function. Ability to rid oneself of conventional behavioral patterns, to rethink and relearn, make the question of the top executive's degree of flexibility and that of his subordinates a crucial one for human relations in the company and in society.<sup>26</sup>

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<sup>25</sup> S. Rubenowitz, Emotional Flexibility-Rigidity as a Comprehensive Dimension of Mind, (Stockholm: Almqvist and Wiksell, 1963), preface.

<sup>26</sup> IBID



Therefore, in the opinion of the writer, it is desirable to study a sample of business executives, for example, professional accountants, to determine the impact that demographic factors and type of professional training have on the degree of "flexibility-rigidity" exhibited. That is, because industrial and chartered accountants possess different demographic characteristics it is expected they will exhibit different attitudes. In addition, it seems likely that some of this differing attitude may be modified by the type of professional training the accountant receives. Thus, it seems preferable to think of rigidity as a description of behavior for which further explanation is necessary, rather than an explanation in itself.

### Working Hypotheses

The hypotheses to be investigated in this study are:

(1) The "rigidity of attitude regarding personal habits" exhibited by industrial and chartered accountants will be significantly different. This difference would be expected because of different professional training and educational prerequisites required of the two types of accountants.<sup>27</sup>

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<sup>27</sup> For information on the educational prerequisites and professional training required of industrial and chartered accountants, see respectively:

Society of Industrial Accountants of Alberta. "Management Accounting - Tomorrow's Career Today," Edmonton, 1970. (pamphlet)

The Institute of Chartered Accountants of Alberta. "Student's Information Handbook," Edmonton, 1970. (pamphlet)





(2) This difference in the rigidity of attitude between the two types of accountants can be partially explained by reference to the demographic variables measured. That is, it is expected that the possession of certain demographic characteristics will have definite, predictable effects upon rigidity of attitude.

(3) Business students majoring in accounting will have more rigid attitudes than business students not majoring in accounting. That is, the conventional educational process required of accounting majors will have observable effects on their rigidity of attitude.

(4) There will be a similarity between business students majoring in accounting and practising accountants in terms of rigidity of attitude and demographic characteristics. It is expected that the educational process undergone will tend to make the two groups similar in rigidity of attitude. In addition, it is expected that students entering the profession will be similar in religion, ethnic origin and socio-economic status to those currently practising the profession.



## CHAPTER IV

### RESEARCH METHODOLOGY

#### Overview

The empirical research for this study was part of a larger research project undertaken at the University of Alberta to survey the demographic characteristics and various attitudes of accountants and business students in Western Canada. Initially, in 1969, a preliminary study was performed on a sample of 625 accountants in Alberta. From analysis of results and problems encountered in this pilot study appropriate changes were made in the primary project performed in 1970.

#### Subjects

Accountant subjects were selected from a list of the members of professional accounting organizations and questionnaires were mailed to all of them. Approximately 40 per cent of these questionnaires were returned. For the university students Dr. L.S. Rosen administered the questionnaires in classrooms located on campus. At the University of British Columbia one accounting class was selected at random from each of first, second, third and fourth year. At the University of Alberta several accounting classes were selected from first, second and third year. Approximately 98 per cent of the students returned the questionnaires.

There were 1299 chartered accountants (CAs) in the sample - 544 from Manitoba and 755 from British Columbia, 537 industrial accountants (RIAs) - 134 from Manitoba and 403 from British Columbia, 352 university



students - 202 from British Columbia and 150 from Alberta and 93 Prairie Certified General Accountants. However, for the purposes of this study data from the 93 Prairie Certified General Accountants will not be used because the first page of the questionnaire was inadvertently omitted. With the exclusion of these 93 PCGAs, 2188 subjects remained, of which 59.4 per cent were CAs, 24.5 per cent were RIAs and 16.1 per cent were university students.

### The Questionnaire

The first page of the questionnaire consisted of a covering letter which explained the purpose of the study, sample of subjects surveyed and the importance of keeping the information private until after completion of the questionnaire.<sup>28</sup>

The first part of the questionnaire asked various demographic and "on the job" questions.<sup>29</sup> The demographic questions were concerned with sex, age, education, income, type of population center where brought up, religion, frequency of church attendance, Canadian province where primarily educated, father's occupation, education of father, ethnic origin of father and voting preference, both provincially and federally. The "on the job" questions were concerned with: number of years worked in public practise, industry, federal and provincial government, years

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<sup>28</sup> See Appendix A for an illustration of one of these covering letters.

<sup>29</sup> See Appendix A for details of specific questions asked.



served on "professional" committees, Canadian province of educational preparation for professional exams, number of companies worked for, number of years worked for present company, number of employees in Canadian firm where employed, position or job title, population of center where employed and accounting designations held.

However, questionnaires administered to the university students did not contain questions on income or education. Instead, a question on academic standing was included (see Appendix B).

The second major section of the questionnaire consisted of 62 Likert-type attitude scale items. These 62 items composed 6 different attitude scales - Californian Fascism (7 items), Political Scale (9 items), Shihadeh Scale (6 items), Rigidity Scale (20 items), Caution Scale (9 items) and Anti-Theoretical Scale (11 items). The items of the various scales were randomly intermingled. In this study the author will only be concerned with the Rigidity Scale.

### The Rigidity Scale

The particular "rigidity scale" that was used in this study was one developed by Moresko, Rubin, Shontz and Morrow.<sup>30</sup> A preliminary 32-item scale was originally administered by Moresko et. al. to 60 undergraduate university students in a pilot study. A corrected odd-even

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<sup>30</sup> IBID, Moresko et. al.





reliability coefficient of .75 was obtained. On the basis of item analysis this 32-item scale was refined to 20 items. Thus, Moresko et. al. were able to construct a 6-point Likert-type attitude scale which could be used to measure the rigidity of attitudes regarding personal habits (called the RAPH scale). The responses to this six point scale ranged from strongly agree to strongly disagree. These authors added a seventh point to the scale by assuming an hypothetical middle category for subjects who omitted rating a given item. The corrected odd-even reliability coefficient for this revised scale was .78 tested on a sample of 188 undergraduate college students.

The RAPH scale items have two main groupings: opposition to change as such, and intolerance of ambiguity. The former grouping was further divided into: traditionalism (1 item), rule-riddenness (7 items), opposition to any change of judgment (3 items) and opposition to any change of plans (6 items). The latter grouping was further divided into: specific situations (1 item) and expectations or plans for the future (2 items).

Agreement was scored as rigid for 18 of the 20 items in the RAPH scale. Thus, to avoid response set the wording of some of the original items were changed so that a more balanced set of items existed - twelve items were to be scored positively (agreement indicating the more rigid response) and eight items were to be scored negatively (disagreement indicating the more rigid response).

Moresko et. al. computed scale values for each subject by using



the Likert summated ratings method.<sup>31</sup> That is, the scale score for each subject is the sum of the scores he obtained on each of the 20 items. The range of values on each item was from one to six with a seventh neutral point added for items omitted. Two items had to be reverse coded, that is, the item values were reversed. This resulted in a pool of items in which a high scale value indicated high rigidity for all items.

For the purposes of scale construction in this study, somewhat different procedures from those used by Moresko et. al. were used. A 5-point Likert scale was used and a value of zero was assigned to items omitted. To compute each subject's rigidity scale score the following was done:

(1) certain items were reverse coded so that high values indicated high rigidity on all items,

(2) if a subject omitted more than two items he was rejected from the analysis (this reduced the sample size from 2188 to 2129, that is, 59 subjects omitted more than two items),

(3) the scale values for each item were summed to obtain a "rigidity scale" score (RS) for the remaining (accepted) subjects.

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<sup>31</sup> R.A. Likert, "A Technique for the Measurement of Attitudes," Archives of Psychology, CXL (1932), pp. 1-55.



## CHAPTER V

### RESULTS AND INTERPRETATIONS

#### Introduction

This chapter will discuss the analysis of the rigidity scale, comparison of the relative rigidity of industrial and chartered accountants, comparison of the relative rigidity of business students who are accounting majors and those who are not accounting majors and comparison of accounting majors and practising accountants in terms of rigidity and demographic characteristics.

The analysis of the data was mainly done using an IBM-360 computer via statistical routines provided in the Statistical Package for the Social Sciences.<sup>32</sup>

#### Analysis of the Measurement Device

As an initial step it is desirable to look at the "rigidity scale" that was used and to compare the results obtained in this study with those obtained by Moresko et. al. - the original authors of the scale.

As was mentioned before, some of the RAPH items were altered so that a better balance of favorable and unfavorable statements towards the object of the attitude (that is, rigidity) would result. Also, in order that equivalent scores would be obtained by all subjects, even if

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<sup>32</sup> N.H. Nie, D.H. Bent and C.H. Hull, Statistical Package for the Social Sciences, (Toronto: McGraw-Hill Book Company, 1970).



they omitted one or two items, RS scores were normalized using the following formula:

$$\text{NORMRS} = \frac{10 \times (\text{RS} - \text{NIRS})}{(5 \times \text{NIRS}) - (\text{NIRS})}$$

where: NORMRS = normalized rigidity scale score  
 RS = summation of rigidity scale item values  
 NIRS = number of items in rigidity scale answered

This formula converts all rigidity scale scores to values between zero and ten. That is, if a subject answered each item with the "lowest possible rigidity" he would receive the minimum score of zero. Conversely, if the subject answered each item with the "highest possible rigidity" he would receive the maximum score of ten. Thus, this formula equalized all scores so that all subjects could obtain equivalent scores, no matter how many items they answered. In addition, this formula allows one to avoid the doubtful practise of assigning omitted responses to a middle, neutral category.

Keeping these changes in mind, it is possible to compare the contribution that each item in the scale makes to the total rigidity scale score in each study (see Appendix C). The Spearman Rank correlation between discriminatory powers of Moresko et. al. and this study's data yielded a value of +.16. However, the correlation was increased to +.68 when only the "unchanged items" were included.

Correlations between item values and normalized rigidity scale scores were computed (see Appendix D). Since all items apparently contributed something, however small, it was decided to retain all twenty items.





To test the normality of distribution of the scale the Kolmogorov-Smirnov test<sup>33</sup> was performed on the normalized rigidity scale scores obtained. It was found that the scale was normally distributed at the 99 per cent level of confidence.

The corrected odd-even reliability coefficient<sup>34</sup> for the observed scale values was +.67 which compares to a value of +.78 obtained by Moresko et. al. As a final comparison the Pearson correlation between the RAPH scale and the Californian Fascism scale was +.37 for this study and +.62 for Moresko et. al.'s study. These differences could have occurred for many reasons - cultural differences between Canadians and Americans, different forms and length of Californian Fascism scale used, accountants are different from college students and the time the studies were performed differed.

#### The Relative Rigidity of Chartered and Industrial Accountants

One of the major hypotheses of this study stated that there would be a significant difference in the relative rigidity of chartered and industrial accountants.

To facilitate analysis, the normalized rigidity scale (NORMRS) was divided into five approximately equal categories on the basis of

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<sup>33</sup> S. Siegel, Nonparametric Statistics for the Behavioral Sciences, (Toronto: McGraw-Hill Book Company, 1956), pp. 47-52.

<sup>34</sup> A.R. Baggaley, Intermediate Correlational Methods, (New York: John Wiley, 1964), p. 80.



scores obtained by the total sample. That is, each category contained about the same number of subjects. The lowest rigidity category was assigned a value of one, the next lowest a value of two, up to the highest rigidity category which was assigned a value of five. This new variable was called "categorized rigidity scale".

A crosstabulation between "categorized rigidity scale" and "type of accountant" (CA or RIA) indicated that industrial accountants have significantly more rigid attitudes than chartered accountants (Chi-square = 89.08, degrees of freedom = 4, significant at the .001 level, see table 1).

TABLE 1

## CROSSTABULATION OF CATEGORIZED RIGIDITY SCALE BY TYPE OF ACCOUNTANT

|                            | Type of Accountant |         |
|----------------------------|--------------------|---------|
|                            | RIA                | CA      |
| Categorized Rigidity Scale | 45                 | 269     |
|                            | (8.7%)*            | (21.3%) |
|                            | 64                 | 241     |
|                            | (12.4%)            | (19.1%) |
|                            | 115                | 306     |
|                            | (22.2%)            | (24.2%) |
|                            | 116                | 212     |
|                            | (22.4%)            | (16.8%) |
|                            | 178                | 235     |
|                            | (34.4%)            | (18.6%) |

\* numbers in brackets are column percentages



A t-test performed on the mean rigidity scale score obtained by each type of accountant also indicated a significant difference ( $t = 9.718$ , degrees of freedom = 1779, significant at the .001 level). The mean for the chartered accountants was 4.270 and the mean for the industrial accountants was 4.749.

As a further step in the analysis it seemed appropriate to determine if some of this observed difference in rigidity could be explained by reference to the demographic variables measured. However, it is entirely possible that the observed difference was due to factors not measured such as cultural values and personality. In addition, factors that could not be completely controlled for such as educational process, that is, type of professional training, may also have contributed to this difference. What is really desired in this analysis are variables that explain the difference in rigidity rather than rigidity, per se.

It is informative to look at the relationships between the various demographic variables and rigidity of attitude. In general, the relations are weak but significant. The observations that can be made about the more rigid accountants will be discussed in order of decreasing degree of relationship.

The more rigid accountants go to church more frequently (Chi-square = 67.54, degrees of freedom = 12, significant at the .001 level, see table 2) and are more likely to be Catholic or Fundamentalist (Chi-square = 45.11, degrees of freedom = 12, significant at the .001 level, see table 3). These two relations are linked in that Fundamentalists and Catholics attend church more frequently than others.



TABLE 2

CROSSTABULATION OF FREQUENCY OF CHURCH ATTENDANCE BY CATEGORIZED  
RIGIDITY SCALE (COLUMN PERCENTAGES SHOWN)

|                            |        | Frequency of Church Attendance |       |        |       |
|----------------------------|--------|--------------------------------|-------|--------|-------|
|                            |        | regularly                      | often | seldom | never |
| Categorized Rigidity Scale | 1      | 12.9                           | 8.0   | 17.0   | 28.3  |
|                            | 2      | 13.4                           | 18.4  | 16.7   | 21.0  |
|                            | 3      | 24.0                           | 25.3  | 24.9   | 19.9  |
|                            | 4      | 19.8                           | 21.8  | 19.3   | 13.4  |
|                            | 5      | 29.9                           | 26.4  | 22.0   | 17.4  |
| mean                       | NORMRS | 4.60                           | 4.60  | 4.41   | 4.13  |

TABLE 3

CROSSTABULATION OF RELIGION BY CATEGORIZED RIGIDITY SCALE  
(COLUMN PERCENTAGES SHOWN)

| Categorized Rigidity Scale | Religion   |          |          |                |      |
|----------------------------|------------|----------|----------|----------------|------|
|                            | Protestant | Anglican | Catholic | Fundamentalist |      |
|                            | 1          | 16.5     | 18.2     | 12.8           | 7.2  |
|                            | 2          | 16.5     | 21.3     | 11.2           | 12.0 |
|                            | 3          | 26.3     | 19.6     | 22.5           | 22.2 |
|                            | 4          | 19.4     | 18.9     | 20.3           | 24.0 |
|                            | 5          | 21.3     | 22.0     | 33.2           | 34.7 |
| mean                       |            |          |          |                |      |
| NORMRS                     | 4.39       | 4.38     | 4.67     | 4.78           |      |





Also, the more rigid accountants have less education (Chi-square = 47.49, degrees of freedom = 8, significant at the .001 level, see table 4) and have less income (Chi-square = 41.70, degrees of freedom = 8, significant at the .001 level, see table 5). These two relations are also linked in that people with less education tend to earn less income.

Table 4

## CROSSTABULATION OF EDUCATION BY CATEGORIZED RIGIDITY SCALE

(COLUMN PERCENTAGES SHOWN)

| Categorized Rigidity Scale | Education   |              |                  |
|----------------------------|-------------|--------------|------------------|
|                            | high school | some college | college graduate |
| 1                          | 14.0        | 19.0         | 24.1             |
| 2                          | 15.6        | 16.9         | 21.1             |
| 3                          | 22.9        | 24.4         | 24.4             |
| 4                          | 19.4        | 18.8         | 15.3             |
| 5                          | 28.1        | 20.9         | 15.1             |
| mean NORMRS                | 4.54        | 4.36         | 4.17             |



TABLE 5

## CROSSTABULATION OF INCOME BY CATEGORIZED RIGIDITY SCALE

(COLUMN PERCENTAGES SHOWN)

| Categorized Rigidity Scale | Income           |                   |                  |
|----------------------------|------------------|-------------------|------------------|
|                            | \$12,500 or less | \$12,501-\$17,500 | \$17,501 or more |
| 1                          | 14.5             | 17.3              | 21.1             |
| 2                          | 13.6             | 19.5              | 19.1             |
| 3                          | 21.6             | 25.9              | 23.9             |
| 4                          | 20.5             | 16.4              | 18.2             |
| 5                          | 29.8             | 20.9              | 17.7             |
| mean                       |                  |                   |                  |
| NORMRS                     | 4.59             | 4.36              | 4.26             |

Finally, the more rigid accountants are more likely to be non-Anglo-Saxon (Chi-square = 35.47, degrees of freedom = 12, significant at the .001 level, see table 6) and more likely to have a father who is a blue collar worker (Chi-square = 30.44, degrees of freedom = 8, significant at the .001 level, see table 7). These two relations are linked in that non-Anglo-Saxons are more likely to have a father who is a blue collar worker.



TABLE 6

## CROSSTABULATION OF ETHNIC ORIGIN BY CATEGORIZED RIGIDITY SCALE

(COLUMN PERCENTAGES SHOWN)

| Categorized Rigidity Scale | Ethnic Origin |               |                  |       |      |
|----------------------------|---------------|---------------|------------------|-------|------|
|                            | Anglo-Saxon   | East European | Central European | Other |      |
|                            | 1             | 19.5          | 13.3             | 13.6  | 10.8 |
|                            | 2             | 18.1          | 10.7             | 17.2  | 17.1 |
|                            | 3             | 24.8          | 23.0             | 19.7  | 20.7 |
|                            | 4             | 17.2          | 21.4             | 21.7  | 19.8 |
|                            | 5             | 20.4          | 31.6             | 27.8  | 31.5 |
| mean                       |               |               |                  |       |      |
| NORMRS                     | 4.33          | 4.64          | 4.56             | 4.61  |      |

TABLE 7

## CROSSTABULATION OF OCCUPATION OF FATHER

BY CATEGORIZED RIGIDITY SCALE

(COLUMN PERCENTAGES SHOWN)

| Categorized Rigidity Scale | (COLUMN PERCENTAGES SHOWN) |              |             |      |
|----------------------------|----------------------------|--------------|-------------|------|
|                            | accountant                 | white collar | blue collar |      |
|                            | 1                          | 20.2         | 20.0        | 15.8 |
|                            | 2                          | 22.8         | 18.9        | 14.4 |
|                            | 3                          | 26.3         | 24.6        | 23.0 |
|                            | 4                          | 10.5         | 18.0        | 19.4 |
|                            | 5                          | 20.2         | 18.5        | 27.4 |
| mean                       | NORMRS                     | 4.26         | 4.30        | 4.52 |



As a necessary intervening step it is desirable to look at the interrelationships between the demographic variables. Looking at only those relationships that have Chi-squares (or contingency coefficients) significant at the .001 level it is possible to observe many interesting relationships (see table 8).

Since the contingency coefficient is computed using chi-square the simplest way to calculate the significance of the contingency coefficient is to determine the significance level of the corresponding chi-square.

First of all, frequency of church attendance is related to religion (Chi-square = 177.91, degrees of freedom = 9) and ethnic origin (Chi-square = 47.89, degrees of freedom = 15). That is, non-Protestants and non-Anglo-Saxons attend church more frequently.

Father's education is related to father's occupation (Chi-square = 185.92, degrees of freedom = 6). This is expected since one's education sets certain limits on his occupational choice.

Age is highly related to income (Chi-square = 496.80, degrees of freedom = 8). It seems reasonable that income will rise as one gets older.

Education is related to many variables - income (Chi-square = 45.46, degrees of freedom = 6), occupation of father (Chi-square = 40.51, degrees of freedom = 6), age (Chi-square = 41.86, degrees of freedom = 12) and education of father (Chi-square = 66.96, degrees of freedom = 9). Thus, the more educated accountant is more likely to be earning a higher income, have a father who is a white collar worker, be older and have a





TABLE 8

## CONTINGENCY COEFFICIENTS OF INTERRELATIONSHIPS BETWEEN

## DEMOGRAPHIC VARIABLES FOR ACCOUNTANTS

|                                | church<br>attendance | religion | education | income | ethnic<br>origin | father's<br>occupation | age<br>up | where<br>brought<br>up | no. of<br>employees<br>in firm | father's<br>education |
|--------------------------------|----------------------|----------|-----------|--------|------------------|------------------------|-----------|------------------------|--------------------------------|-----------------------|
| religion                       | .327*                |          |           |        |                  |                        |           |                        |                                |                       |
| education                      | .065                 | .106     |           |        |                  |                        |           |                        |                                |                       |
| income                         | .073                 | .164*    | .160*     |        |                  |                        |           |                        |                                |                       |
| ethnic<br>origin               | .149*                | .450*    | .098      | .130*  |                  |                        |           |                        |                                |                       |
| father's<br>occupation         | .044                 | .147*    | .155*     | .118*  | .172*            |                        |           |                        |                                |                       |
| age                            | .192*                | .185*    | .154*     | .465*  | .189*            | .101                   |           |                        |                                |                       |
| where<br>brought up            | .093                 | .177*    | .101      | .099   | .146*            | .260*                  | .096      |                        |                                |                       |
| no. of<br>employees<br>in firm | .067                 | .059     | .094      | .151*  | .077             | .092                   | .055      | .070                   |                                |                       |
| father's<br>education          | .082                 | .090     | .195*     | .113*  | .112*            | .315*                  | .136*     | .109                   | .024                           |                       |

\* significant at the .001 level



college educated father.

The type of population center where brought up is related to religion (Chi-square = 47.90, degrees of freedom = 9), ethnic origin (Chi-square = 43.47, degrees of freedom = 15) and occupation of father (Chi-square = 124.22, degrees of freedom = 6). Thus, it seems that people brought up in smaller centers are more likely to be non-Protestant, non-Anglo-Saxon and have a father who is a blue collar worker.

Another necessary intervening step is to look at the relationship between each of the demographic variables and the type of accountant, that is, RIA or CA. All relationships are significant at the .001 level except "frequency of church attendance" which is significant at the .30-.50 level.

The industrial accountants (RIAs), in comparison to the chartered accountants (CAs): earn less income (Chi-square = 370.73, degrees of freedom = 2, see table 9), are less educated (Chi-square = 101.78, degrees of freedom = 2, see table 10), work in larger firms (Chi-square = 75.95, degrees of freedom = 2, see table 11), are more likely to be non-Protestant (Chi-square = 46.99, degrees of freedom = 3, see table 12), are more likely to be non-Anglo-Saxon (Chi-square = 34.28, degrees of freedom = 3, see table 13), are more likely to be brought up in a smaller center (Chi-square = 34.27, degrees of freedom = 3, see table 14), are more likely to be younger (Chi-square = 31.56, degrees of freedom = 4, see table 15), are more likely to have a father who is a blue collar worker (Chi-square = 25.38, degrees of freedom = 2, see table 16) and are more likely to have a less educated father (Chi-square = 18.93, degrees of freedom = 2, see table 17).



TABLE 9

## CROSSTABULATION OF INCOME BY TYPE OF ACCOUNTANT

(ROW PERCENTAGES SHOWN)

| Type of Accountant | Income           |                   |                  |
|--------------------|------------------|-------------------|------------------|
|                    | \$12,500 or less | \$12,501-\$17,500 | \$17,501 or more |
| CA                 | 23.3             | 32.9              | 43.8             |
| RIA                | 69.2             | 22.4              | 8.4              |

TABLE 10

## CROSSTABULATION OF EDUCATION BY TYPE OF ACCOUNTANT

(ROW PERCENTAGES SHOWN)

| Type of Accountant | Education   |              |                  |
|--------------------|-------------|--------------|------------------|
|                    | high school | some college | college graduate |
| CA                 | 39.7        | 26.5         | 33.8             |
| RIA                | 63.4        | 24.3         | 12.3             |

TABLE 11

## CROSSTABULATION OF NUMBER OF EMPLOYEES IN FIRM WHERE EMPLOYED

BY TYPE OF ACCOUNTANT (ROW PERCENTAGES SHOWN)

| Type of Accountant | Number of Employees in Firm Where Employed |          |           |
|--------------------|--|----------|-----------|
|                    | 0-250                                      | 251-1000 | over 1000 |
| CA                 | 32.8                                       | 36.8     | 30.4      |
| RIA                | 19.4                                       | 28.8     | 51.8      |



TABLE 12

## CROSSTABULATION OF RELIGION BY TYPE OF ACCOUNTANT

(ROW PERCENTAGES SHOWN)

| Type of Accountant | Religion   |          |          |                |
|--------------------|------------|----------|----------|----------------|
|                    | Protestant | Anglican | Catholic | Fundamentalist |
| CA                 | 49.2       | 30.9     | 10.9     | 9.0            |
| RIA                | 38.6       | 24.8     | 18.3     | 18.3           |

TABLE 13

## CROSSTABULATION OF ETHNIC ORIGIN BY TYPE OF ACCOUNTANT

(ROW PERCENTAGES SHOWN)

| Type of Accountant | Ethnic Origin |               |                  |       |
|--------------------|---------------|---------------|------------------|-------|
|                    | Anglo-Saxon   | East European | Central European | Other |
| CA                 | 75.1          | 10.5          | 9.5              | 4.9   |
| RIA                | 62.1          | 13.0          | 15.5             | 9.4   |

TABLE 14

## CROSSTABULATION OF TYPE OF POPULATION CENTER WHERE

BROUGHT UP BY TYPE OF ACCOUNTANT

(ROW PERCENTAGES SHOWN)

| Type of Accountant | Type of Population Center Where Brought Up |            |            |                     |
|--------------------|--|------------|------------|---------------------|
|                    | farm                                       | small town | small city | big city or suburbs |
| CA                 | 7.4  | 16.7       | 15.7       | 60.1                |
| RIA                | 13.7                                       | 20.5       | 19.2       | 46.5                |





TABLE 15

## CROSSTABULATION OF AGE BY TYPE OF ACCOUNTANT

(ROW PERCENTAGES SHOWN)

| Type of Accountant | Age   |       |       |       |         |
|--------------------|-------|-------|-------|-------|---------|
|                    | 18-25 | 26-30 | 31-35 | 36-43 | over 43 |
| CA                 | 3.9   | 22.5  | 22.9  | 22.9  | 27.7    |
| RIA                | 9.8   | 21.9  | 23.2  | 24.7  | 20.4    |

TABLE 16

## CROSSTABULATION OF OCCUPATION OF FATHER BY TYPE OF ACCOUNTANT

(ROW PERCENTAGES SHOWN)

| Type of Accountant | Occupation of Father |              |             |
|--------------------|----------------------|--------------|-------------|
|                    | accountant           | white collar | blue collar |
| CA                 | 7.6                  | 42.0         | 50.3        |
| RIA                | 4.1                  | 32.7         | 63.1        |

TABLE 17

## CROSSTABULATION OF EDUCATION OF FATHER BY TYPE OF ACCOUNTANT

(ROW PERCENTAGES SHOWN)

| Type of Accountant | Education of Father |            |       |
|--------------------|---------------------|------------|-------|
|                    | high school         | university | other |
| CA                 | 75.3                | 15.2       | 9.4   |
| RIA                | 76.0                | 9.3        | 14.7  |



An interesting and pertinent point is that, in general, the RIAs have more of the characteristics which tend to be associated with greater rigidity. This may be a partial explanation of why RIAs have more rigid attitudes.

Thus, with these intervening relationships in mind, it is possible to determine which of the demographic variables contribute the most to the observed difference in the relative rigidity of the two types of accountants. The method used is to look at the relationship between rigidity and type of accountant controlling for the demographic variable in question. Evaluation of these results indicates that the observed difference was contributed to most by a "pool" or "combination" of demographic variables which are, in large part, interrelated.

A "t-test" was used to test the significance of the difference in mean rigidity scale score between the two types of accountants for each category of each demographic variable.

For the variable "age" the differences in rigidity were significant at the .001 level for all categories except the "over 43" category. The greatest differences occurred in the younger groups.

For the variable "income" only the "\$12,500 or less" category gave a difference significant at the .001 level.

All categories of "religion" gave differences significant at the .001 level. The greatest differences occurred for the non-Protestants.

For the variable "ethnic origin" only the categories "Anglo-Saxon" and "Other" gave differences significant at the .001 level.



All categories of "number of employees in firm where employed" gave differences significant at the .001 level. However, greater differences occurred for those working in smaller firms.

For the variable "education" only the categories "high school" and "some college" gave differences significant at the .001 level.

For the variable "type of population center where brought up" only the category "farm" did not give a difference significant at the .001 level.

For the variable "education of father" only the category "high school" gave a difference significant at the .001 level.

For the variable "frequency of church attendance" all categories except "often" gave differences significant at the .001 level.

As a check on the correctness of the above analysis it was decided to select a sample of accountants who possessed some of the demographic characteristics associated with the greatest difference in observed rigidity between RIAs and CAs, that is, younger (18-25), non-Protestant, non-Anglo-Saxon and working in smaller firms (less than 1000 employees). Another sample was selected which consisted of accountants who did not possess these characteristics, that is, older (over 35), Protestant, Anglo-Saxon and working in a larger firm (over 1000 employees). Income had to be omitted because too few RIAs were in the higher income bracket for analysis. The results indicate that the analysis was correct. A t-test performed on the difference in rigidity for those accountants with the associated characteristics gave a "t" of 4.395, degrees of freedom = 51, significant at the .001 level. The mean for the CAs was



4.270 and the mean for the RIAs was 5.206, giving a difference of 0.936 in mean rigidity scale score for those accountants with the associated characteristics. The t-test performed on those accountants without the associated characteristics gave a "t" of 1.397, degrees of freedom = 104, significant at the .20 level. In this instance, the mean for the CAs was 4.378 and the mean for the RIAs was 4.610, giving a difference of 0.232 for those accountants without the associated characteristics.

#### The Relative Rigidity of Accounting and Non-Accounting Majors

The next hypothesis to be investigated stated that business students majoring in accounting would exhibit more rigidity than those not majoring in accounting.

A crosstabulation between "categorized rigidity scale" and "accounting major or non-accounting major" demonstrated the predicted relation (Chi-square = 11.52, degrees of freedom = 4, significant at the .05 level, see table 18).

A t-test performed on the mean rigidity scale score obtained by accounting majors (mean = 4.411) and non-accounting majors (mean = 4.185) also indicated a significant difference ( $t = 2.067$ , degrees of freedom = 332, significant at the .05 level).

Again, it was deemed appropriate to determine if some of this observed difference could be explained by reference to the demographic variables measured. However, it is entirely possible that the observed difference was due to factors not measured such as cultural values and personality. In addition, factors that could not be completely controlled





TABLE 18

CROSSTABULATION OF CATEGORIZED RIGIDITY SCALE  
BY 'ACCOUNTING MAJOR OR NON-ACCOUNTING MAJOR'

| Accounting Major or Non-Accounting Major |   |                      |         |
|--|---|----------------------|---------|
| accounting major                         |   | non-accounting major |         |
| Categorized Rigidity Scale               |   | 14                   | 59      |
|  | 1 | (12.1%)*             | (27.1%) |
|  |   | 23                   | 33      |
|  | 2 | (19.8%)              | (15.1%) |
|  |   | 31                   | 44      |
|  | 3 | (26.7%)              | (20.2%) |
|  |   | 22                   | 45      |
|  | 4 | (19.0%)              | (20.6%) |
|  |   | 26                   | 37      |
|  | 5 | (22.4%)              | (17.0%) |

\* numbers in brackets are column percentages

for such as educational process, that is, type of academic training, may also have contributed to this difference. Therefore, what is really desired in this analysis are variables that explain the difference in rigidity rather than rigidity, per se.

Initially, the relation between each of the demographic characteristics and rigidity was investigated. It was found that none of these variables were significantly related (at the .05 level) to rigidity.



The interrelationships between the demographic characteristics was investigated solely for the business students. In this case, only those relationships that had a chi-square (and thus corresponding contingency coefficient) significant at the .05 level were investigated. Many of the same relations exist for the students as existed for the accountants (see table 19).

First, frequency of church attendance is related to religion (Chi-square = 75.75, degrees of freedom = 9, significant at the .001 level) and ethnic origin (Chi-square = 19.97, degrees of freedom = 9, significant at the .02 level). That is, non-Protestants and non-Anglo-Saxons attend church more frequently than others.

Also, education of father is related to occupation of father (Chi-square = 60.31, degrees of freedom = 4, significant at the .001 level). Apparently one's education affects his choice of occupation.

Type of population center where brought up is related to many variables - religion (Chi-square = 41.46, degrees of freedom = 9, significant at the .001 level), ethnic origin (Chi-square = 19.18, degrees of freedom = 9, significant at the .05 level) and occupation of father (Chi-square = 34.66, degrees of freedom = 6, significant at the .001 level). Thus, it seems that people brought up in smaller centers are more likely to be non-Protestant, non-Anglo-Saxon and have a father who is a blue collar worker.

The next step is to look at the relation between each of the demographic variables and "accounting major or non-accounting major".



TABLE 19

## CONTINGENCY COEFFICIENTS OF INTERRELATIONSHIPS BETWEEN

## DEMOGRAPHIC VARIABLES FOR BUSINESS STUDENTS

|                        | church<br>attendance | religion | ethnic<br>origin | father's<br>occupation | where<br>brought<br>up | father's<br>education | academic<br>standing |
|------------------------|----------------------|----------|------------------|------------------------|------------------------|-----------------------|----------------------|
| religion               | .487*                |          |                  |                        |                        |                       |                      |
| ethnic<br>origin       | .241*                | .399*    |                  |                        |                        |                       |                      |
| father's<br>occupation | .160                 | .281*    | .134             |                        |                        |                       |                      |
| where<br>brought<br>up | .161                 | .382*    | .235*            | .307*                  |                        |                       |                      |
| father's<br>education  | .080                 | .174     | .224*            | .400*                  | .178                   |                       |                      |
| academic<br>standing   | .094                 | .222*    | .103             | .045                   | .099                   | .097                  |                      |

\* significant at the .05 level



Accounting majors are more likely to be non-Anglo-Saxon (Chi-square = 13.44, degrees of freedom = 3, significant at the .01 level, see table 20), non-Protestant (Chi-square = 8.65, degrees of freedom = 3, significant at the .05 level, see table 21), have a less educated father (Chi-square = 10.58, degrees of freedom = 2, significant at the .01 level, see table 22). In addition, the accounting major is more likely to have a father who is a blue collar worker (Chi-square = 10.24, degrees of freedom = 2, significant at the .01 level, see table 23) and perceive himself to be of higher academic standing than the non-accounting major (Chi-square = 9.46, degrees of freedom = 2, significant at the .01 level, see table 24).

Thus, with these sets of intervening relationships in mind, it is possible to determine which of the demographic variables contribute the most to the observed difference in the relative rigidity between the accounting majors and non-accounting majors. Again, the method used was to look at the relationship between rigidity and "accounting major or non-accounting major" controlling for the demographic variable in question.

A t-test was used to test the significance of the difference in mean rigidity scale score between accounting and non-accounting majors for each category of each demographic variable. A critical level of .05 was used.

No significant differences were found for the variables religion, ethnic origin and father's occupation.

Significant differences at the .05 level between accounting and non-accounting majors were found for those students who had a college





TABLE 20

## CROSSTABULATION OF ETHNIC ORIGIN BY

'ACCOUNTING MAJOR OR NON-ACCOUNTING MAJOR'

(ROW PERCENTAGES SHOWN)

|                            | Anglo-Saxon | Ethnic Origin<br>East European | Central<br>European | Other |
|----------------------------|-------------|--------------------------------|---------------------|-------|
| Accounting<br>Major        | 50.0        | 8.9                            | 14.3                | 26.8  |
| Non<br>Accounting<br>Major | 57.9        | 12.4                           | 18.7                | 11.0  |

TABLE 21

## CROSSTABULATION OF RELIGION BY

'ACCOUNTING MAJOR OR NON-ACCOUNTING MAJOR'

(ROW PERCENTAGES SHOWN)

|                            | Religion   |          |          |                |
|----------------------------|------------|----------|----------|----------------|
|                            | Protestant | Anglican | Catholic | Fundamentalist |
| Accounting<br>Major        | 37.8       | 23.0     | 20.3     | 18.9           |
| Non<br>Accounting<br>Major | 47.5       | 9.9      | 27.2     | 15.4           |



TABLE 22

CROSSTABULATION OF EDUCATION OF FATHER BY  
'ACCOUNTING MAJOR OR NON-ACCOUNTING MAJOR'

(ROW PERCENTAGES SHOWN)

|                            | Education of Father |            |       |
|----------------------------|---------------------|------------|-------|
|                            | high school         | university | other |
| Accounting<br>Major        | 75.0                | 12.0       | 13.0  |
| Non<br>Accounting<br>Major | 67.6                | 26.0       | 6.4   |

TABLE 23

CROSSTABULATION OF OCCUPATION OF FATHER BY  
'ACCOUNTING MAJOR OR NON-ACCOUNTING MAJOR'

(ROW PERCENTAGES SHOWN)

|                            | Occupation of Father |              |             |
|----------------------------|----------------------|--------------|-------------|
|                            | accountant           | white collar | blue collar |
| Accounting<br>Major        | 6.5                  | 30.6         | 63.0        |
| Non<br>Accounting<br>Major | 3.2                  | 48.6         | 48.1        |



TABLE 24  
CROSSTABULATION OF ACADEMIC STANDING BY  
'ACCOUNTING MAJOR OR NON-ACCOUNTING MAJOR'  
(ROW PERCENTAGES SHOWN)

|            |            | Academic Standing |        |        |
|------------|------------|-------------------|--------|--------|
|            |            | top               | middle | bottom |
|            |            | <hr/>             |        |        |
| Accounting | Major      | 63.2              | 29.8   | 7.0    |
|            |            | <hr/>             |        |        |
| Non        | Accounting | 45.4              | 43.6   | 11.0   |
|            | Major      | <hr/>             |        |        |

educated father, were brought up in a small town, attend church regularly and perceived themselves to be in the bottom of their class.

#### Similarity Between Accounting Majors and Practising Accountants

The final hypothesis stated that there would be a similarity between accounting majors and practising accountants in terms of rigidity of attitude and associated demographic characteristics.

In terms of mean rigidity scale score it appears that there is a progression from "non-accounting majors" (mean = 4.185) to "CAs" (mean = 4.270) to "accounting majors" (mean = 4.411) to "RIAs" (mean = 4.749). Also, in terms of distribution in the categorized rigidity scale there is a marked difference between the four groups, again indicating a similar progression (Chi-square = 107.47, degrees of freedom = 12, significant at the .001 level, see table 25).



TABLE 25

## CROSSTABULATION OF CATEGORIZED RIGIDITY SCALE

## BY TYPE OF SUBJECT

| Categorized Rigidity Scale | Type of Subject            |         |                     |         |
|----------------------------|----------------------------|---------|---------------------|---------|
|                            | Non<br>Accounting<br>Major | CA      | Accounting<br>Major | RIA     |
|                            | 59                         | 269     | 14                  | 45      |
|                            | 1 (27.1%)*                 | (21.3%) | (12.1%)             | (8.7%)  |
|                            | 33                         | 241     | 23                  | 64      |
|                            | 2 (15.1%)                  | (19.1%) | (19.8%)             | (12.4%) |
|                            | 44                         | 306     | 31                  | 115     |
|                            | 3 (20.2%)                  | (24.2%) | (26.7%)             | (22.2%) |
|                            | 45                         | 212     | 22                  | 116     |
|                            | 4 (20.6%)                  | (16.8%) | (19.0%)             | (22.4%) |
|                            | 37                         | 235     | 26                  | 178     |
|                            | 5 (17.0%)                  | (18.6%) | (22.4%)             | (34.4%) |

\* numbers in brackets are column percentages

There were some notable differences and similarities in demographic characteristics of the accounting majors and practising accountants.

The practising accountants are more likely to be Anglo-Saxon than the accounting majors (Chi-square = 112.43, degrees of freedom = 9, significant at the .001 level, see table 26). Also, the accounting majors are more similar to the RIAs, rather than the CAs in religion (Chi-square = 91.56, degrees of freedom = 9, significant at the .001 level, see table 27). The accounting majors attend church less frequently than the practising





TABLE 26

## CROSSTABULATION OF ETHNIC ORIGIN BY TYPE OF SUBJECT

(ROW PERCENTAGES SHOWN)

|                 |                      | Ethnic Origin |               |                  |       |
|-----------------|----------------------|---------------|---------------|------------------|-------|
|                 |                      | Anglo-Saxon   | East European | Central European | Other |
| Type of Subject | Non Accounting Major | 57.9          | 12.4          | 18.7             | 11.0  |
|                 | CA                   | 75.1          | 10.5          | 9.5              | 4.9   |
|                 | Accounting Major     | 50.0          | 8.9           | 14.3             | 26.8  |
|                 | RIA                  | 62.1          | 13.0          | 15.5             | 9.4   |

TABLE 27

## CROSSTABULATION OF RELIGION BY TYPE OF SUBJECT

|                 |                      | Religion   |          |          |                |
|-----------------|----------------------|------------|----------|----------|----------------|
|                 |                      | Protestant | Anglican | Catholic | Fundamentalist |
| Type of Subject | Non Accounting Major | 47.5       | 9.9      | 27.2     | 15.4           |
|                 | CA                   | 49.2       | 30.9     | 10.9     | 9.0            |
|                 | Accounting Major     | 37.8       | 23.0     | 20.3     | 18.9           |
|                 | RIA                  | 38.6       | 24.8     | 18.3     | 18.3           |



accountants (Chi-square = 37.32, degrees of freedom = 9, significant at the .001 level, see table 28). In addition, the accounting majors are more similar to the RIAs than the CAs in terms of occupation of father (Chi-square = 38.80, degrees of freedom = 6, significant at the .001 level, see table 29). Thus, it seems that the accounting majors - supposedly the people who are the future accountants - possess different demographic characteristics from the practising accountants. The accounting majors tend to be non-Anglo-Saxon, non-Protestant, attend church less frequently and more likely to have a father who is a blue collar worker.

An interesting deviation from this trend is that the accounting majors are more similar to the CAs than the RIAs in type of population center where brought up (Chi-square = 52.05, degrees of freedom = 9, significant at the .001 level, see table 30). That is, the accounting majors and CAs tend to come from larger centers whereas the RIAs are more likely to have come from smaller centers.



TABLE 28

CROSSTABULATION OF FREQUENCY OF  
CHURCH ATTENDANCE BY TYPE OF SUBJECT

(ROW PERCENTAGES SHOWN)

## Frequency of Church Attendance

| Type of Subject |            | Regularly | Often | Seldom | Never |
|-----------------|------------|-----------|-------|--------|-------|
|                 | <hr/>      |           |       |        |       |
|                 | Non        |           |       |        |       |
|                 | Accounting |           |       |        |       |
|                 | Major      | 16.9      | 11.3  | 39.0   | 32.9  |
|                 | CA         | 21.6      | 10.7  | 46.7   | 20.9  |
|                 | Accounting |           |       |        |       |
|                 | Major      | 16.1      | 8.9   | 37.5   | 37.5  |
|                 | RIA        | 23.6      | 9.4   | 48.5   | 18.5  |

TABLE 29

CROSSTABULATION OF OCCUPATION OF  
FATHER BY TYPE OF SUBJECT

(ROW PERCENTAGES SHOWN)

## Occupation of Father

| Type of Subject |            | Accountant | White Collar | Blue Collar |
|-----------------|------------|------------|--------------|-------------|
|                 | <hr/>      |            |              |             |
|                 | Non        |            |              |             |
|                 | Accounting |            |              |             |
|                 | Major      | 3.2        | 48.6         | 48.1        |
|                 | CA         | 7.6        | 42.0         | 50.3        |
|                 | Accounting |            |              |             |
|                 | Major      | 6.5        | 30.6         | 63.0        |
|                 | RIA        | 4.1        | 32.7         | 63.1        |



TABLE 30  
CROSSTABULATION OF TYPE OF POPULATION CENTER  
WHERE BROUGHT UP BY TYPE OF SUBJECT  
(ROW PERCENTAGES SHOWN)

| Type of Population Center Where Brought Up |                            |      |            |            |                     |
|--|----------------------------|------|------------|------------|---------------------|
|  |                            | farm | small town | small city | big city or suburbs |
| Type of Subject                            | Non<br>Accounting<br>Major | 14.7 | 14.7       | 9.2        | 61.5                |
|  | CA                         | 7.4  | 16.7       | 15.7       | 60.1                |
|  | Accounting<br>Major        | 9.6  | 14.9       | 10.5       | 64.9                |
|  | RIA                        | 13.7 | 20.5       | 19.2       | 46.5                |





## CHAPTER VI

### CONCLUSION

#### Summary of Findings

The major findings of this study included significant differences in the rigidity of attitude between industrial and chartered accountants, and between business students majoring in accounting and business students not majoring in accounting. An attempt to relate these attitude differences to differences in demographic characteristics resulted in factors such as religion, ethnic origin and frequency of church attendance as partial explanations.

In a comparison of accounting majors and practising accountants it was found that the accounting major lies between the industrial and chartered accountant in terms of rigidity of attitude. In addition, accounting majors were found to differ most from practising accountants in ethnic origin and frequency of church attendance but were similar to industrial accountants in religion and occupation of father and similar to chartered accountants in type of population center where brought up.

The general findings of this study allow one to make certain speculations about the future of the accounting profession - primarily, what will happen if the young people entering the profession are notably different in attitude and socio-economic status from those who are firmly established accountants?

That is, it appeared that the accounting majors, the students who supposedly would go on to become professional accountants, were less



likely to be a WASP or from the elite class. The accounting major tended to be more of a middle class or working class individual. Thus, the practising accountants tend to be Anglo-Saxon, Protestant, have a father who is college educated and a white collar worker whereas the accounting majors tend to be non-Anglo-Saxon, non-Protestant and have a father who is less educated and a blue collar worker.

### Limitations of the Study

The findings and conclusions of this study, with regards to the rigidity of attitude, are limited by the reliability and validity of the particular scale used. That is, given less than a perfect measurement device, the results are subject to a certain amount of error which could affect the conclusions drawn.

The particular design of the study puts certain limits on its possible conclusions. First, attitude change over time was not measured and secondly, different demographic characteristics could have been measured and even those measured could have been measured more accurately. For example, religion had to be collapsed into a manageable number of categories as over forty different religions were reported.

This study is also limited in that it dealt with accountants and business students only. Comparisons with other professional groups would have been desirable. Also, a "normal" population to compare the results with would have been helpful.



### Suggestions for Further Research

A better designed questionnaire and perhaps, longer attitude scale would be desirable for use in further research. Further work in this area could be to survey the attitudes and demographic characteristics of various professional groups such as teachers, engineers and lawyers. Also, it would be desirable to establish norms for the scale by testing a large sample from the "normal" population.

An interesting and rewarding investigation would be to survey attitude and demographic characteristics over time to determine changes that may be taking place in various professions.



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Appendix A: Sample Questionnaire Given to Accountants

UNIVERSITY OF ALBERTA

FACULTY OF BUSINESS ADMINISTRATION AND COMMERCE

Edmonton 7, Alberta

March 30, 1970

Your cooperation in completing the attached questionnaire will be immensely appreciated. This survey is part of a series being compiled to provide necessary information to assist both the Societies and the Universities in student recruiting, student and member education, and many related matters. An extensive amount of information has already been assembled for the Province of Alberta from questionnaires and interviews. Chartered Accountants, Registered Industrial Accountants, students at various levels, and other professional groups have cooperated with us in developing profiles of Canadian accountants. Society members in other Provinces have agreed to participate at various future dates depending on the completion of each part of the survey. Your assistance in promptly responding to the attached is vital to us. We need a good response to permit us to make sound statistical inferences.

Please note that we do not want your name on the questionnaire. We are not concerned with identifying individuals; your personal privacy will be protected. All responses will be reduced to statistical summaries and will be processed by a computer. Results will be published at a later date when the entire project is completed.

The attached questions have been compiled and extensively tested on other groups by competent social scientists. It is very important that you work quickly and complete each question - even those which may appear to be humorous or ridiculous. Please avoid discussing questions with associates until after you have mailed the completed questionnaire.

A self-addressed envelope is enclosed for your convenience. Thank you for your assistance.

Sincerely,

L.S. Rosen, for Accounting  
Research Unit  
Faculty of Business Admin-  
istration and Commerce  
University of Alberta



Respondent No. \_\_\_\_\_  
(Office Use Only)

ACCOUNTING RESEARCH UNIT  
FACULTY OF BUSINESS ADMINISTRATION AND COMMERCE  
UNIVERSITY OF ALBERTA

General Instructions:

Please complete, or circle the appropriate number for  
each question

1. Sex: M \_\_\_\_\_ F \_\_\_\_\_

2. Age last birthday: \_\_\_\_\_

3. What is the last year of school that you completed?  
(Please circle only one)

|                                |   |                   |       |
|--------------------------------|---|-------------------|-------|
| High School Graduate           | 1 | Post Graduate     | 4     |
| Some College or University     | 2 | Technology School | 5     |
| College or University Graduate | 3 | Other             | _____ |
|                                |   | (please specify)  |       |

4. What is your present annual income from all sources?

|                      |   |                      |   |
|----------------------|---|----------------------|---|
| \$10,000 or less     | 1 | \$20,001 to \$25,000 | 6 |
| \$10,001 to \$12,500 | 2 | \$25,001 to \$30,000 | 7 |
| \$12,501 to \$15,000 | 3 | \$30,001 to \$40,000 | 8 |
| \$15,001 to \$17,500 | 4 | Over \$40,000        | 9 |
| \$17,501 to \$20,000 | 5 |                      |   |

5. During the first 18 years of your life, did you live mostly:

|                 |   |                                 |   |
|-----------------|---|---------------------------------|---|
| On a farm       | 1 | In a small city                 | 3 |
| In a small town | 2 | In a big city or its<br>suburbs | 4 |

6. A. What is your religion or church preference?

|                       |   |                  |       |
|-----------------------|---|------------------|-------|
| Protestant (Answer B) | 1 | Other            | _____ |
| Roman Catholic        | 2 | (please specify) |       |
| Jewish                | 3 | None             | 5     |
| Greek Orthodox        | 4 | Don't know       | 9     |

B. If Protestant, please complete:

|               |   |                  |       |
|---------------|---|------------------|-------|
| Presbyterian  | 1 | Methodist        | 6     |
| Lutheran      | 2 | Other            | _____ |
| Baptist       | 3 | (please specify) |       |
| United Church | 4 | Don't know       | 7     |
| Anglican      | 5 |                  |       |



6. C. Would you say that you go to church:

|           |   |        |   |
|-----------|---|--------|---|
| Regularly | 1 | Seldom | 3 |
| Often     | 2 | Never  | 4 |

7. During the first 18 years of your life, in which Canadian "Province" were you primarily educated?

|                  |   |                       |    |
|------------------|---|-----------------------|----|
| British Columbia | 1 | Nova Scotia           | 7  |
| Alberta          | 2 | New Brunswick         | 8  |
| Saskatchewan     | 3 | Prince Edward Island  | 9  |
| Manitoba         | 4 | Newfoundland          | 10 |
| Ontario          | 5 | Yukon                 | 11 |
| Quebec           | 6 | Northwest Territories | 12 |

If not in Canada, in which country? \_\_\_\_\_

8. What type of work did your father have while your were growing up?  
Please specify \_\_\_\_\_

9. What was the last year of school your father completed? (You may circle more than one).

|                 |   |                     |   |
|-----------------|---|---------------------|---|
| Grade 1-6       | 1 | University Graduate | 5 |
| Junior High     | 2 | Post Graduate       | 6 |
| High School     | 3 | Technical School    | 7 |
| Some University | 4 | No Schooling        | 8 |
|                 |   | Don't know          | 9 |

10. Where did your family (father's side) originally come from?

|               |   |                  |   |
|---------------|---|------------------|---|
| Great Britain | 1 | Italy            | 6 |
| Ireland       | 2 | Hungary          | 7 |
| United States | 3 | Ukraine          | 8 |
| France        | 4 | China            | 9 |
| Germany       | 5 | Other            |   |
|               |   | (please specify) |   |

11. Generally, do you think of yourself as a:

|                        | <u>Provincially</u> | <u>Federally</u> |
|------------------------|---------------------|------------------|
| Social Credit          | 1                   | 11               |
| Liberal                | 2                   | 12               |
| New Democrat           | 3                   | 13               |
| Conservative           | 4                   | 14               |
| Independent            | 5                   | 15               |
| Don't know             | 6                   | 16               |
| Other (please specify) | _____               | _____            |

12. In which Canadian Province or country did you receive the majority of your educational preparation for your C.A. final examination?

Canadian Province \_\_\_\_\_ Other country \_\_\_\_\_  
(please specify) (please specify)





13. Since beginning your C.A. studies (ie., "on-the-job training") how many companies or organizations have you worked for? \_\_\_\_\_

14. How long have you been working with your present company or organization? \_\_\_\_\_

15. What is the approximate total number of employees of the entire Canadian firm in which you are presently employed?

|            |   |             |   |              |   |
|------------|---|-------------|---|--------------|---|
| 10 or less | 1 | 101 to 250  | 4 | 1001 to 2000 | 7 |
| 11 to 25   | 2 | 251 to 500  | 5 | 2001 to 5000 | 8 |
| 26 to 100  | 3 | 501 to 1000 | 6 | Above 5000   | 9 |

16. Are you presently employed in:

|                 |   |
|-----------------|---|
| Public Practice | 1 |
| Industry        | 2 |
| Government      | 3 |
| Other           | 4 |

17. What is the approximate population of the city/town in which you are presently working? \_\_\_\_\_

18. What other accounting designations do you hold? (eg. R.I.A.)  
\_\_\_\_\_

19. How many years have you served on:

|   | <u>No. Years</u> | <u>Approx. Dates</u> |
|---|------------------|----------------------|
| Provincial C.A. Institute Senior Council    | _____            | _____                |
| Committees of the Provincial C.A. Institute | _____            | _____                |
| CICA Institute Council or Committees        | _____            | _____                |

20. What is your present position or title? (please circle only one)

|                             |       |                             |    |
|-----------------------------|-------|-----------------------------|----|
| Senior audit partner        | 1     | Controller/Chief Accountant | 7  |
| Audit partner               | 2     | Manager in Industry         | 8  |
| Audit manager/supervisor    | 3     | Staff employee in industry  | 9  |
| Staff chartered accountant  | 4     | Internal auditor            | 10 |
| President or vice-president | 5     | Owner of small business     | 11 |
| Treasurer                   | 6     | Retired                     | 12 |
| Other (please specify)      | _____ |                             |    |



|  | Agree<br>Strongly | Agree | Undecided | Disagree | Disagree<br>Strongly |
|--|-------------------|-------|-----------|----------|----------------------|
| 1. Even if the fundamental principles of accounting need a little tidying up, there are none that need major revision.   | 1                 | 2     | 3         | 4        | 5                    |
| 2. Few things are more upsetting than a sudden unexpected change of plan.  | 1                 | 2     | 3         | 4        | 5                    |
| 3. The government ought to help people get doctor's and hospital care at low cost.   | 1                 | 2     | 3         | 4        | 5                    |
| 4. The biggest advantage man possesses over lower animals is his ability to regulate himself and live by definite unchanging rules of conduct.                   | 1                 | 2     | 3         | 4        | 5                    |
| 5. The government in Ottawa ought to see to it that everybody who wants to work can find a job.  | 1                 | 2     | 3         | 4        | 5                    |
| 6. Once a person starts going off his budget, even by small amounts, he's on the road to financial difficulty.   | 1                 | 2     | 3         | 4        | 5                    |
| 7. There are occasions when the accountant should take a gamble, weighing things up and, if there's more for than against, risking it.                           | 1                 | 2     | 3         | 4        | 5                    |
| 8. Though academics still argue until they are blue in the face about the nature of profit, accountants have already solved this problem for practical purposes. | 1                 | 2     | 3         | 4        | 5                    |
| 9. When you are dealing with other people's money you must inevitably play safe.   | 1                 | 2     | 3         | 4        | 5                    |
| 10. It's better to give the appearance of being over-cautious than to risk ever making mistakes.   | 1                 | 2     | 3         | 4        | 5                    |
| 11. The best way to enjoy a vacation is <u>not</u> to plan every detail carefully before you leave.  | 1                 | 2     | 3         | 4        | 5                    |
| 12. The most important thing a child should learn is obedience to his parents.   | 1                 | 2     | 3         | 4        | 5                    |
| 13. Human nature being what it is, there must always be war and conflict.  | 1                 | 2     | 3         | 4        | 5                    |



|   | Agree<br>Strongly | Agree | Undecided | Disagree | Disagree<br>Strongly |
|---|-------------------|-------|-----------|----------|----------------------|
| 14. In future, for accountants to make sound recommendations on proper relationships they will need some knowledge of Operations Research.  | 1                 | 2     | 3         | 4        | 5                    |
| 15. I like the kind of painting that doesn't tell a story, or portrays something in an ambiguous fashion.   | 1                 | 2     | 3         | 4        | 5                    |
| 16. Canada would be better off without any labour unions at all.  | 1                 | 2     | 3         | 4        | 5                    |
| 17. Once a person makes up his mind about something he should stick to his conclusions instead of repeatedly rehashing the question.  | 1                 | 2     | 3         | 4        | 5                    |
| 18. The accountant who sets himself the goal of never being wrong inevitably restricts his area of usefulness.  | 1                 | 2     | 3         | 4        | 5                    |
| 19. If I had a new car, I'd always keep it nicely cleaned and polished.   | 1                 | 2     | 3         | 4        | 5                    |
| 20. Women should get into politics.   | 1                 | 2     | 3         | 4        | 5                    |
| 21. We need more government controls over business practices and profits.   | 1                 | 2     | 3         | 4        | 5                    |
| 22. I like doing things just on the spur of the moment.   | 1                 | 2     | 3         | 4        | 5                    |
| 23. It's a good idea to have a strong point of view about things because that makes it easier to decide what's wrong or right.  | 1                 | 2     | 3         | 4        | 5                    |
| 24. Taking risks isn't the function of a Chartered Accountant and it is unreasonable to expect it of him.   | 1                 | 2     | 3         | 4        | 5                    |
| 25. A self-respecting person would never permit himself to relax his vigilance over personal habits; seemingly minor lapses can easily grow into complete breakdown of self-discipline. | 1                 | 2     | 3         | 4        | 5                    |
| 26. The individual employee and the work he does should be considered of secondary importance to the system of organization.  | 1                 | 2     | 3         | 4        | 5                    |



|   | Agree<br>Strongly | Agree | Undecided | Disagree | Disagree<br>Strongly |
|---|-------------------|-------|-----------|----------|----------------------|
| 27. The relationship between accountancy and mathematics ought to be much closer.   | 1                 | 2     | 3         | 4        | 5                    |
| 28. A few strong leaders could make this country better than all the laws and talk.   | 1                 | 2     | 3         | 4        | 5                    |
| 29. A precise and complete set of rules must govern all decisions in order to ensure an efficient organization.   | 1                 | 2     | 3         | 4        | 5                    |
| 30. People can be trusted.  | 1                 | 2     | 3         | 4        | 5                    |
| 31. Accountants will have to learn a lot more about the relationship between liquidity and interest rates before they are in a position to make really intelligent decisions on the use of funds. | 1                 | 2     | 3         | 4        | 5                    |
| 32. I often start things I can't finish.  | 1                 | 2     | 3         | 4        | 5                    |
| 33. One of the major aims of education should be to give us a few simple rules of behavior to apply in every situation.   | 1                 | 2     | 3         | 4        | 5                    |
| 34. Accountancy is a profession where one has got to be cautious.   | 1                 | 2     | 3         | 4        | 5                    |
| 35. The duties of the individual employee should be loosely defined in order that he may be allowed to exercise his own particular skills to a higher degree.                                     | 1                 | 2     | 3         | 4        | 5                    |
| 36. Accountants as a general rule should be less cautious.  | 1                 | 2     | 3         | 4        | 5                    |
| 37. I rather like the idea of having my meals at odd hours and of going to bed when the mood strikes me.  | 1                 | 2     | 3         | 4        | 5                    |
| 38. The importance of maintaining a complete set of records and files must be constantly emphasized.  | 1                 | 2     | 3         | 4        | 5                    |
| 39. In whatever one does, the "tried and "true" ways are rarely the best.   | 1                 | 2     | 3         | 4        | 5                    |





|  | Agree<br>Strongly | Agree | Undecided | Disagree | Disagree<br>Strongly |
|--|-------------------|-------|-----------|----------|----------------------|
| 40. Big companies control too much of Canadian business.   | 1                 | 2     | 3         | 4        | 5                    |
| 41. The only way to make sure that things get done right is to set up a definite and fixed schedule and never depart from it.  | 1                 | 2     | 3         | 4        | 5                    |
| 42. Ideas developed in universities are not likely to have much bearing on practical accountancy work.   | 1                 | 2     | 3         | 4        | 5                    |
| 43. The government ought to see that the poor get good housing at low cost.  | 1                 | 2     | 3         | 4        | 5                    |
| 44. Until we understand the concept of value better we will always have confusion about depreciation.  | 1                 | 2     | 3         | 4        | 5                    |
| 45. The rules of logic are the rules of life.  | 1                 | 2     | 3         | 4        | 5                    |
| 46. In an ideal situation very little skill should be required and individual employees need only to follow the proper rules of procedure.                             | 1                 | 2     | 3         | 4        | 5                    |
| 47. A person who seldom changes his mind can usually be depended upon to have sound and reliable judgement on matters of importance.                                   | 1                 | 2     | 3         | 4        | 5                    |
| 48. I would never want to see practical experience during training cut down to substitute more theoretical study.  | 1                 | 2     | 3         | 4        | 5                    |
| 49. "A place for everything and everything in its place" is a pretty poor motto to live by.  | 1                 | 2     | 3         | 4        | 5                    |
| 50. The way they are run now, labour unions do this country more harm than good.   | 1                 | 2     | 3         | 4        | 5                    |
| 51. When one is giving an opinion on future prospects one should confine oneself to stating what is certain to happen and avoid dealing with what is only conjectural. | 1                 | 2     | 3         | 4        | 5                    |
| 52. I rather like the idea of having friends drop in unexpectedly at odd hours.  | 1                 | 2     | 3         | 4        | 5                    |



|   | Agree<br>Strongly | Agree | Undecided | Disagree | Disagree<br>Strongly |
|---|-------------------|-------|-----------|----------|----------------------|
| 53. To give advice about areas of uncertainty is a challenge which no Chartered Accountant should refuse.   | 1                 | 2     | 3         | 4        | 5                    |
| 54. Most people who don't get ahead just don't have enough willpower.   | 1                 | 2     | 3         | 4        | 5                    |
| 55. Every person should live by a few good and unchanging rules of conduct; that way he can never go wrong.   | 1                 | 2     | 3         | 4        | 5                    |
| 56. If an employee has an idea for improving procedures he should be able to go directly to the person in authority to get his idea explained and taken into consideration. | 1                 | 2     | 3         | 4        | 5                    |
| 57. Those who don't realize that "discounted cash flow" is a perspective every bit as much as a technique are missing half its significance.                                | 1                 | 2     | 3         | 4        | 5                    |
| 58. The government should leave things like electric power and housing for private businessmen to handle.   | 1                 | 2     | 3         | 4        | 5                    |
| 59. An insult to your honor should not be forgotten.  | 1                 | 2     | 3         | 4        | 5                    |
| 60. Only if one has some grasp of statistical probability is one in a position to make rational investment decisions.   | 1                 | 2     | 3         | 4        | 5                    |
| 61. The government ought to have special programs so that children from poor families receive help to get as much education as possible.                                    | 1                 | 2     | 3         | 4        | 5                    |
| 62. There is no substitute for the practical experience of doing the job.   | 1                 | 2     | 3         | 4        | 5                    |



Appendix B: Sample Questionnaire Given to Business Students

St. Respondent No. \_\_\_\_\_  
(office use only)

ACCOUNTING RESEARCH UNIT

FACULTY OF BUSINESS ADMINISTRATION AND COMMERCE

UNIVERSITY OF ALBERTA

General Instructions:

Please complete, or circle the appropriate number for each question.

1. Sex: M \_\_\_\_\_ F \_\_\_\_\_

2. Age at last birthday? \_\_\_\_\_

3. Is it your present intention to major in accounting? Yes \_\_\_\_\_ No \_\_\_\_\_

4. In terms of average course grades, where do you stand in relation to other students in your year? (please circle only one)

|         |   |           |   |
|---------|---|-----------|---|
| Top 20% | 1 | Lower 40% | 4 |
| Top 40% | 2 | Lower 20% | 5 |
| Middle  | 3 |           |   |

5. During the first 18 years of your life, did you live mostly:

|                 |   |                              |   |
|-----------------|---|------------------------------|---|
| On a farm       | 1 | In a small city              | 3 |
| In a small town | 2 | In a big city or its suburbs | 4 |

6. A. What is your religion or church preference?

|                       |   |                  |       |
|-----------------------|---|------------------|-------|
| Protestant (Answer B) | 1 | Other            | _____ |
| Roman Catholic        | 2 | (please specify) |       |
| Jewish                | 3 | None             | 5     |
| Greek Orthodox        | 4 | Don't know       | 9     |

B. If Protestant, please complete:

|               |   |                  |       |
|---------------|---|------------------|-------|
| Presbyterian  | 1 | Methodist        | 6     |
| Lutheran      | 2 | Other            | _____ |
| Baptist       | 3 | (please specify) |       |
| United Church | 4 | Don't know       | 7     |
| Anglican      | 5 |                  |       |

C. Would you say that you go to church:

|           |   |        |   |
|-----------|---|--------|---|
| Regularly | 1 | Seldom | 3 |
| Often     | 2 | Never  | 4 |



7. During the first 18 years of your life, in which Canadian "Province" were you primarily educated?

|   |   |                       |    |
|---|---|-----------------------|----|
| British Columbia                          | 1 | Nova Scotia           | 7  |
| Alberta                                   | 2 | New Brunswick         | 8  |
| Saskatchewan                              | 3 | Prince Edward Island  | 9  |
| Manitoba                                  | 4 | Newfoundland          | 10 |
| Ontario                                   | 5 | Yukon                 | 11 |
| Quebec                                    | 6 | Northwest Territories | 12 |
| If not in Canada, in which country? _____ |   |                       |    |

8. What type of work did your father have while you were growing up?  
Please specify \_\_\_\_\_

9. What was the last year of school your father completed? (You may circle more than one).

|                 |   |                     |   |
|-----------------|---|---------------------|---|
| Grade 1-6       | 1 | University Graduate | 5 |
| Junior High     | 2 | Post Graduate       | 6 |
| High School     | 3 | Technical School    | 7 |
| Some University | 4 | No Schooling        | 8 |
|                 |   | Don't know          | 9 |

10. Where did your family (father's side) originally come from?

|                        |   |         |   |
|------------------------|---|---------|---|
| Great Britain          | 1 | Italy   | 6 |
| Ireland                | 2 | Hungary | 7 |
| United States          | 3 | Ukraine | 8 |
| France                 | 4 | China   | 9 |
| Germany                | 5 | Other   |   |
| (please specify) _____ |   |         |   |

11. Generally, do you think of yourself as a:

|                              | <u>Provincially</u> | <u>Federally</u> |
|------------------------------|---------------------|------------------|
| Social Credit                | 1                   | 11               |
| Liberal                      | 2                   | 12               |
| New Democrat                 | 3                   | 13               |
| Conservative                 | 4                   | 14               |
| Independent                  | 5                   | 15               |
| Don't know                   | 6                   | 16               |
| Other (please specify) _____ |                     |                  |





We would like to know how you feel about each of the following statements. Please circle the number which you feel is most appropriate.

|  | Agree<br>Strongly | Agree | Undecided | Disagree | Disagree<br>Strongly |
|--|-------------------|-------|-----------|----------|----------------------|
| 1. Even if the fundamental principles of accounting need a little tidying up, there are none that need major revision.   | 1                 | 2     | 3         | 4        | 5                    |
| 2. Few things are more upsetting than a sudden unexpected change of plan.  | 1                 | 2     | 3         | 4        | 5                    |
| 3. The government ought to help people get doctor's and hospital care at low cost.   | 1                 | 2     | 3         | 4        | 5                    |
| 4. The biggest advantage man possesses over lower animals is his ability to regulate himself and live by definite unchanging rules of conduct.                   | 1                 | 2     | 3         | 4        | 5                    |
| 5. The government in Ottawa ought to see to it that everybody who wants to work can find a job.  | 1                 | 2     | 3         | 4        | 5                    |
| 6. Once a person starts going off his budget, even by small amounts, he's on the road to financial difficulty.   | 1                 | 2     | 3         | 4        | 5                    |
| 7. There are occasions when the accountant should take a gamble, weighing things up and, if there's more for than against, risking it.                           | 1                 | 2     | 3         | 4        | 5                    |
| 8. Though academics still argue until they are blue in the face about the nature of profit, accountants have already solved this problem for practical purposes. | 1                 | 2     | 3         | 4        | 5                    |
| 9. When you are dealing with other people's money you must inevitably play safe.   | 1                 | 2     | 3         | 4        | 5                    |
| 10. It's better to give the appearance of being over cautious than to risk ever making mistakes.   | 1                 | 2     | 3         | 4        | 5                    |
| 11. The best way to enjoy a vacation is <u>not</u> to plan every detail carefully before you leave.  | 1                 | 2     | 3         | 4        | 5                    |
| 12. The most important thing a child should learn is obedience to his parents.   | 1                 | 2     | 3         | 4        | 5                    |



|  | Agree<br>Strongly | Agree | Undecided | Disagree | Disagree<br>Strongly |
|--|-------------------|-------|-----------|----------|----------------------|
| 13. Human nature being what it is, there must always be war and conflict.  | 1                 | 2     | 3         | 4        | 5                    |
| 14. In future, for accountants to make sound recommendations on proper relationships they will need some knowledge of Operations Research.   | 1                 | 2     | 3         | 4        | 5                    |
| 15. I like the kind of painting that doesn't tell a story, or portrays something in an ambiguous fashion.  | 1                 | 2     | 3         | 4        | 5                    |
| 16. Canada would be better off without any labour unions at all.   | 1                 | 2     | 3         | 4        | 5                    |
| 17. Once a person makes up his mind about something he should stick to his conclusions instead of repeatedly rehashing the question.   | 1                 | 2     | 3         | 4        | 5                    |
| 18. The accountant who sets himself the goal of never being wrong inevitably restricts his area of usefulness.   | 1                 | 2     | 3         | 4        | 5                    |
| 19. If I had a new car, I'd always keep it nicely cleaned and polished.  | 1                 | 2     | 3         | 4        | 5                    |
| 20. Women should get into politics.  | 1                 | 2     | 3         | 4        | 5                    |
| 21. We need more government controls over business practices and profits.  | 1                 | 2     | 3         | 4        | 5                    |
| 22. I like doing things just on the spur of the moment.  | 1                 | 2     | 3         | 4        | 5                    |
| 23. It's a good idea to have a strong point of view about things because that makes it easier to decide what's wrong or right.   | 1                 | 2     | 3         | 4        | 5                    |
| 24. Taking risks isn't the function of an accountant and it is unreasonable to expect it of him.   | 1                 | 2     | 3         | 4        | 5                    |
| 25. A self-respecting person should never permit himself to relax his vigilance over personal habits; seemingly minor lapses can easily grow into complete breakdown of self-discipline. | 1                 | 2     | 3         | 4        | 5                    |



|   | Agree<br>Strongly | Agree | Undecided | Disagree | Disagree<br>Strongly |
|---|-------------------|-------|-----------|----------|----------------------|
| 26. The individual employee and the work he does should be considered of secondary importance to the system of organization.  | 1                 | 2     | 3         | 4        | 5                    |
| 27. The relationship between accountancy and mathematics ought to be much closer.   | 1                 | 2     | 3         | 4        | 5                    |
| 28. A few strong leaders could make this country better than all the laws and talk.   | 1                 | 2     | 3         | 4        | 5                    |
| 29. A precise and complete set of rules must govern all decisions in order to ensure an efficient organization.   | 1                 | 2     | 3         | 4        | 5                    |
| 30. People can be trusted.  | 1                 | 2     | 3         | 4        | 5                    |
| 31. Accountants will have to learn a lot more about the relationship between liquidity and interest rates before they are in a position to make really intelligent decisions on the use of funds. | 1                 | 2     | 3         | 4        | 5                    |
| 32. I often start things I can't finish.  | 1                 | 2     | 3         | 4        | 5                    |
| 33. One of the major aims of education should be to give us a few simple rules of behavior to apply in every situation.   | 1                 | 2     | 3         | 4        | 5                    |
| 34. Accountancy is a profession where one has got to be cautious.   | 1                 | 2     | 3         | 4        | 5                    |
| 35. The duties of the individual employee should be loosely defined in order that he may be allowed to exercise his own particular skills to a higher degree.                                     | 1                 | 2     | 3         | 4        | 5                    |
| 36. Accountants as a general rule should be less cautious.  | 1                 | 2     | 3         | 4        | 5                    |
| 37. I rather like the idea of having my meals at odd hours and of going to bed when the mood strikes me.  | 1                 | 2     | 3         | 4        | 5                    |
| 38. The importance of maintaining a complete set of records and files must be constantly emphasized.  | 1                 | 2     | 3         | 4        | 5                    |
| 39. In whatever one does, the "tried and true" ways are rarely the best.  | 1                 | 2     | 3         | 4        | 5                    |



|  | Agree<br>Strongly | Agree | Undecided | Disagree | Disagree<br>Strongly |
|--|-------------------|-------|-----------|----------|----------------------|
| 40. Big companies control too much of Canadian business.   | 1                 | 2     | 3         | 4        | 5                    |
| 41. The only way to make sure that things get done right is to set up a definite and fixed schedule and never depart from it.  | 1                 | 2     | 3         | 4        | 5                    |
| 42. Ideas developed in universities are not likely to have much bearing on practical accountancy work.   | 1                 | 2     | 3         | 4        | 5                    |
| 43. The government ought to see that the poor get good housing at low cost.  | 1                 | 2     | 3         | 4        | 5                    |
| 44. Until we understand the concept of value better we will always have confusion about depreciation.  | 1                 | 2     | 3         | 4        | 5                    |
| 45. The rules of logic are the rules of life.  | 1                 | 2     | 3         | 4        | 5                    |
| 46. In an ideal situation very little skill should be required and individual employees need only to follow the proper rules of procedure.                             | 1                 | 2     | 3         | 4        | 5                    |
| 47. A person who seldom changes his mind can usually be depended upon to have sound and reliable judgement on matters of importance.                                   | 1                 | 2     | 3         | 4        | 5                    |
| 48. I would never want to see practical experience during training cut down to substitute more theoretical study.  | 1                 | 2     | 3         | 4        | 5                    |
| 49. "A place for everything and everything in its place" is a pretty poor motto to live by.  | 1                 | 2     | 3         | 4        | 5                    |
| 50. The way they are run now, labour unions do this country more harm than good.   | 1                 | 2     | 3         | 4        | 5                    |
| 51. When one is giving an opinion on future prospects one should confine oneself to stating what is certain to happen and avoid dealing with what is only conjectural. | 1                 | 2     | 3         | 4        | 5                    |
| 52. I rather like the idea of having friends drop in unexpectedly at odd hours.  | 1                 | 2     | 3         | 4        | 5                    |





|   | Agree<br>Strongly | Agree | Undecided | Disagree | Disagree<br>Strongly |
|---|-------------------|-------|-----------|----------|----------------------|
| 53. To give advice about areas of uncertainty is a challenge which no accountant should refuse.   | 1                 | 2     | 3         | 4        | 5                    |
| 54. Most people who don't get ahead just don't have enough willpower.   | 1                 | 2     | 3         | 4        | 5                    |
| 55. Every person should live by a few good and unchanging rules of conduct; that way he can never go wrong.   | 1                 | 2     | 3         | 4        | 5                    |
| 56. If an employee has an idea for improving procedures he should be able to go directly to the person in authority to get his idea explained and taken into consideration. | 1                 | 2     | 3         | 4        | 5                    |
| 57. Those who don't realize that "discounted cash flow" is a perspective every bit as much as a technique are missing half its significance.                                | 1                 | 2     | 3         | 4        | 5                    |
| 58. The government should leave things like electric power and housing for private businessmen to handle.   | 1                 | 2     | 3         | 4        | 5                    |
| 59. An insult to your honor should not be forgotten.  | 1                 | 2     | 3         | 4        | 5                    |
| 60. Only if one has some grasp of statistical probability is one in a position to make rational investment decisions.   | 1                 | 2     | 3         | 4        | 5                    |
| 61. The government ought to have special programs so that children from poor families receive help to get as much education as possible.                                    | 1                 | 2     | 3         | 4        | 5                    |
| 62. There is no substitute for the practical experience of doing the job.   | 1                 | 2     | 3         | 4        | 5                    |



# Appendix C

## COMPARISON OF ITEM-DISCRIMINATORY POWERS FOR MORESKO'S AND THIS STUDY'S DATA

| no.  | item                      | Moresko's Data |               |      | This Study's Data |               |              |
|------|---------------------------|----------------|---------------|------|-------------------|---------------|--------------|
|      |                           | High Q<br>mean | Low Q<br>mean | DP*  | High Q<br>mean    | Low Q<br>mean | DP**<br>Rank |
| 1    | friends drop in           | 4.60           | 2.34          | 2.26 | 3.36              | 2.33          | 1.03 8.5     |
| x 2  | spur of moment            | 3.42           | 1.53          | 1.89 | 2.98              | 2.11          | 0.87 15      |
| x 3  | painting unambiguous      | 5.23           | 3.32          | 1.91 | 3.72              | 2.90          | 0.82 17      |
| 4    | sudden change of plans    | 4.96           | 3.26          | 1.70 | 3.43              | 2.16          | 1.27 3       |
| 5    | vigilance over habits     | 5.40           | 3.11          | 2.29 | 3.41              | 2.00          | 1.41 1       |
| x 6  | "tried and true" ways     | 4.40           | 1.72          | 2.68 | 3.76              | 3.60          | 0.16 20      |
| x 7  | never start, can't finish | 4.60           | 2.72          | 1.88 | 3.94              | 3.56          | 0.38 19      |
| 8    | strong point of view      | 5.33           | 2.62          | 2.71 | 3.00              | 2.02          | 0.98 12.5    |
| 9    | rules of logic            | 4.58           | 3.13          | 1.45 | 3.38              | 2.41          | 0.97 14      |
| 10   | car always polished       | 5.29           | 4.11          | 1.18 | 3.36              | 2.25          | 1.11 5       |
| x 11 | everything in its place   | 6.27           | 3.83          | 2.44 | 3.67              | 2.64          | 1.03 8.5     |
| x 12 | vacation: plan details    | 3.67           | 1.94          | 1.73 | 2.46              | 1.76          | 0.70 18      |
| 13   | going off budget          | 4.79           | 2.75          | 2.04 | 2.91              | 1.87          | 1.04 7       |
| 14   | odd hours                 | 5.29           | 3.11          | 2.18 | 3.65              | 2.56          | 1.09 6       |



Appendix C (continued)

COMPARISON OF ITEM-DISCRIMINATORY POWERS FOR MORESKO'S AND THIS STUDY'S DATA

| no. | item                        | Moresko's Data |               |      | This Study's Data |               |           |
|-----|-----------------------------|----------------|---------------|------|-------------------|---------------|-----------|
|     |                             | High Q<br>mean | Low Q<br>mean | DP*  | High Q<br>Mean    | Low Q<br>mean | DP** Rank |
| 15  | simple rules of behavior    | 5.54           | 2.28          | 3.26 | 3.02              | 1.74          | 1.28 2    |
| 16  | advantage: unchanging rules | 4.40           | 1.83          | 2.57 | 2.88              | 1.63          | 1.25 4    |
| 17  | seldom change mind          | 3.44           | 1.55          | 1.89 | 2.38              | 1.54          | 0.84 16   |
| 18  | stick to conclusion         | 5.21           | 2.60          | 2.61 | 3.40              | 2.42          | 0.98 12.5 |
| 19  | live by unchanging rules    | 4.94           | 2.60          | 2.34 | 2.72              | 1.73          | 0.99 10.5 |
| 20  | fixed schedule              | 4.52           | 2.09          | 2.43 | 2.82              | 1.83          | 0.99 10.5 |

\* all significant at the .01 level

\*\* all significant at the .001 level (t-test performed)

x changed items



# Appendix D

## ITEM TO SCALE CORRELATIONS

| no.             | item                        | Kendall Correlation | Spearman Correlation | Pearson Correlation |
|-----------------|-----------------------------|---------------------|----------------------|---------------------|
| 1               | friends drop in             | .256                | .328                 | .362                |
| X 2             | spur of moment              | .297                | .374                 | .350                |
| X 3             | painting unambiguous        | .227                | .291                 | .310                |
| 4               | sudden change of plans      | .341                | .440                 | .447                |
| 5               | vigilance over habits       | .434                | .542                 | .502                |
| X 6             | "tried and true" ways       | .141                | .176                 | .100                |
| X 7             | never start, can't finish   | .146                | .183                 | .160                |
| 8               | strong point of view        | .284                | .357                 | .377                |
| 9               | rules of logic              | .345                | .438                 | .359                |
| 10              | car always polished         | .302                | .378                 | .390                |
| X 11            | everything in its place     | .265                | .330                 | .386                |
| X 12            | vacation: plan every detail | .151                | .189                 | .273                |
| i3              | going off budget            | .343                | .431                 | .386                |
| 14              | odd hours                   | .303                | .389                 | .369                |
| 15              | simple rules of behavior    | .267                | .339                 | .429                |
| 16              | advantage: unchanging rules | .239                | .303                 | .442                |
| 17              | seldom change mind          | .366                | .450                 | .385                |
| 18              | stick to conclusion         | .271                | .345                 | .337                |
| 19              | live by unchanging rules    | .379                | .467                 | .423                |
| 20              | fixed schedule              | .386                | .471                 | .455                |
| X changed items |                             |                     |                      |                     |











**B29987**